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This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-3 (canceled)

- 1 Claim 4 (currently amended): For use with a node of a  
2 communications network, a method for setting up a  
3 connection in response to a request, the method comprising:  
4     a) determining a next link of the connection based on  
5     routing information;  
6     b) determining whether the determined next link of  
7     the connection has sufficient capacity to meet that  
8     requested by the request;  
9     c) if the determined next link of the connection is  
10    determined to not have sufficient capacity to meet  
11    that requested by the request, repeating (b) and (c)  
12    at least once to try an alternative next link;  
13    d) if the determined next link of the connection is  
14    determined to have sufficient capacity to meet that  
15    requested by the request, then (i) updating connection  
16    admission control information to reflect the capacity  
17    requested by the request and (ii) further requesting a  
18    connection identifier;  
19    e) accepting a requested connection identifier  
20    received;  
21    f) providing an interface number and allocation  
22    control information to an interface associated with  
23    the interface number; and  
24 The method of claim 3 further comprising:  
25    g) if an interface receives an interface number and  
26    allocation control information associated with the  
27    interface number, then

28               i) determining a bit-vector corresponding to the  
29               interface number,  
30               ii) determining a first available part of the  
31               link, and  
32               iii) marking the bit vector such that bits  
33               corresponding to the determined first available  
34               part of the link are marked as unavailable.

1   Claim 5 (original): The method of claim 4 wherein the link  
2   is a time division multiplexed link.

1   Claim 6 (original): The method of claim 4 wherein the link  
2   is a wavelength division multiplexed link.

1   Claim 7 (currently amended): The method of claim 4 +  
2   further comprising:  
3        he) accepting allocated capacity information;  
4        if) updating switch mapping information in response  
5        to the received allocated capacity information; and  
6        jg) updating state information based on the allocated  
7        capacity information.

1   Claim 8 (currently amended ): The method of claim 4 3  
2   further comprising:  
3        hg) accepting allocated capacity information;  
4        ih) updating switch mapping information in response  
5        to the received allocated capacity information;  
6        ji) updating state information based on the allocated  
7        capacity information; and  
8        kh) generating a set up message including the  
9        connection identifier and the interface.

## Claim 9 (canceled)

1 Claim 10 (currently amended): The apparatus of claim 13 9  
2 wherein the programmable device is a field programmable  
3 gate array.

## Claims 11 and 12 (canceled)

1 Claim 13 (currently amended): For use with a node of a  
2 communications network, the node having interfaces  
3 terminating communications links, an apparatus for setting  
4 up a connection in response to a request, the apparatus  
5 comprising:  
6     a) at least one storage device storing  
7         i) routing information;  
8         ii) connection admission control information;  
9         and  
10     b) a programmable device adapted to  
11         i) determine a next link of the connection based  
12         on the routing information;  
13         ii) determine whether the determined next link  
14         of the connection has sufficient capacity to meet  
15         that requested by the request of the call;  
16         iii) repeat (ii) and (ii) at least once to try  
17         an alternative next link if the next link of the  
18         connection is determined to not have sufficient  
19         capacity to meet that requested by the request;  
20         iv) update the connection admission control  
21         information to reflect the capacity requested by  
22         the request and request a connection identifier  
23         if the determined next link of the connection is

24           determined to have sufficient capacity to meet  
25           that requested by the request  
26           v) accept a requested connection identifier;  
27           vi) provide an interface number and allocation  
28           control information to an interface associated  
29           with the interface number; and  
30        The device of claim 12 wherein the programmable device is  
31        further adapted to  
32            — vii) if an interface receives an interface  
33            number and allocation control information  
34            associated with the interface number, then  
35              i) determining a bit-vector corresponding  
36              to the interface number,  
37              ii) determining a first available part of  
38              the link, and  
39              iii) marking the bit vector such that bits  
40              corresponding to the determined first  
41              available part of the link are marked as  
42              unavailable.

1     Claim 14 (original): The device of claim 13 wherein the  
2     link is a time division multiplexed link.

1     Claim 15 (original): The device of claim 13 wherein the  
2     link is a wavelength division multiplexed link.

1     Claim 16 (currently amended): The device of claim 13 9  
2     wherein the programmable device is further adapted to  
3        - accepting allocated capacity information;  
4        - updating switch mapping information in response to  
5        the received allocated capacity information; and

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6 - updating state information based on the allocated  
7 capacity information.

Claims 17-20 (canceled)

1 Claim 21 (previously presented): The method of claim 22  
2 wherein the communications resources is bandwidth.

1 Claim 22 (previously presented): For use in call signaling  
2 protocol, a method for use by a node of a communications  
3 network to determine a link of a connection, the method  
4 comprising:

- 5 a) determining a next hop of the connection based on  
6 routing information;
- 7 b) determining a link associated with the determined  
next hop;
- 9 c) determining whether or not the determined link has  
10 sufficient communications resources to satisfy the  
call; and
- 12 d) only if it is determined that the determined link  
13 has sufficient communication resources to satisfy the  
14 call, then allocating communication resources of the  
15 link to the call,  
16 wherein the link is a multiplexed link having  
17 channels, and  
18 wherein the act of allocating communication resources  
19 of the link to the call includes determining available  
20 channels of the link until the sum of capacity of the  
21 determined available channels is enough to satisfy the  
22 call.

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- 1 Claim 23 (original): The method of claim 22 wherein the  
2 link is a time division multiplexed link and wherein the  
3 channels are time-slots.
  
- 1 Claim 24 (original): The method of claim 22 wherein the  
2 link is a wavelength division multiplexed link and wherein  
3 the channels are wavelengths.

Claim 25 (canceled)

- 1 Claim 26 (previously presented): The apparatus of claim 27  
2 wherein the communications resources is bandwidth.
  
- 1 Claim 27 (currently amended): For use in call signalling  
2 protocol, apparatus ~~a method~~ for use by a node of a  
3 communications network to determine a link of a connection,  
4 the apparatus ~~method~~ comprising:
  - 5 a) means for determining a next hop of the connection  
6 based on routing information;
  - 7 b) means for determining a link associated with the  
8 determined next hop;
  - 9 c) means for determining whether or not the  
10 determined link has sufficient communications  
11 resources to satisfy the call; and
  - 12 d) means for allocating communication resources of  
13 the link to the call only if it is determined that the  
14 determined link has sufficient communication resources  
15 to satisfy the call, ~~then allocating communication~~  
16 ~~resources of the link to the call,~~  
17 wherein the link is a multiplexed link having  
18 channels, and

19       wherein the means for allocating communication  
20   resources of the link to the call includes means for  
21   determining available channels of the link until the sum of  
22   capacity of the determined available channels is enough to  
23   satisfy the call.

1   Claim 28 (original): The apparatus of claim 27 wherein the  
2   link is a time division multiplexed link and wherein the  
3   channels are time-slots.

1   Claim 29 (original): The apparatus of claim 27 wherein the  
2   link is a wavelength division multiplexed link and wherein  
3   the channels are wavelengths.

1   Claim 30 (currently amended): The method of claim 4 4  
2   wherein the act of updating connection admission control  
3   information to reflect the capacity requested by the  
4   request if the determined next link of the connection is  
5   determined to have sufficient capacity to meet that  
6   requested by the request, includes decreasing the capacity  
7   of the link.

1   Claim 31 (currently amended): The apparatus of claim 13 9  
2   wherein the programmable device is adapted to update the  
3   connection admission control information to decrease the  
4   capacity of the link to reflect the capacity requested by  
5   the request if the determined next link of the connection  
6   is determined to have sufficient capacity to meet that  
7   requested by the request.